

REMARKS

Claims 1, 5, 7 and 9 have been amended, and new Claims 23 and 24 have been added. Claims 1-24 are pending.

Claims 1, 7 and 9 have been amended to correct informalities and typographical errors. Claim 5 has been amended to delete reference to SEQ ID NO:7, which is the subject matter of new independent Claim 23.

New Claim 24 is drawn to the species elected (i.e., SEQ ID NO:4) in response to the Election of Species requirement. Support for Claim 24 can be found, for example, in Claim 5 as originally filed.

The amended and new claims are supported by the application as filed. Therefore, this Amendment adds no new matter.

Reply to Restriction Requirement

Responsive to the Restriction Requirement dated April 11, 2003, the claims of Group I (Claims 1-9), defined by the Examiner as being drawn to "polypeptides comprising a CEA binding loop, said polypeptides having the ability to bind CEA," are elected for further prosecution. Applicants reserve the right to file a continuing application or take such other appropriate action as deemed necessary to protect the non-elected inventions. Applicants do not hereby abandon or waive any rights in the non-elected inventions.

Reply to Election of Species Requirement

Responsive to the requirement for an election of species under 35 U.S.C. § 121, Applicants hereby elect SEQ ID NO:4 as the elected species. Claims readable on this elected species are Claims 1, 3, 5, 6, 8, 9 and 24.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned at (978) 341-0036.

Respectfully submitted,

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MARKED-UP VERSION OF AMENDMENTS

Claim Amendments Under 37 C.F.R. § 1.121(c)(1)(ii)

1. (Amended) A polypeptide having the ability to bind CEA comprising a CEA binding loop having the amino acid sequence Cys-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀-X₁₁-Cys (SEQ ID NO:3), wherein

X₄ is Asn, Glu, or Met;

X₅ is Asn, Leu, Met or Phe;

X₆ is Asp, Gly, Ile, Lys, Phe or Thr;

X₇ is Ala, Gln, Gly, Lys or Thr;

X₈ is Arg, Asn, Asp, Glu or Gly;

X₉ is Gln, Gly or Leu;

X₁₀ is Ala, Trp or Tyr;

X₁₁ is Ala, Gly, His, Phe, Thr or Val[;].

5. (Amended) A polypeptide according to Claim 3, comprising an amino acid sequence selected from the group consisting of:

Asn-Trp-Val-Cys-Asn-Leu-Phe-Lys-Asn-Gln-Trp-Phe-Cys-Asn-Ser-Tyr (SEQ ID NO:4),

Asp-Trp-Val-Cys-Glu-Asn-Lys-Lys-Asp-Gln-Trp-Thr-Cys-Asn-Leu-Leu (SEQ ID NO:5),

Asn-Trp-Asp-Cys-Met-Phe-Gly-Ala-Glu-Gly-Trp-Ala-Cys-Ser-Pro-Trp (SEQ ID NO:6);

[Asp-Trp-Val-Cys-Glu-Lys-Thr-Thr-Gly-Gly-Tyr-Val-Cys-Gln-Pro-Leu (SEQ ID NO:7);]

Asn-Trp-Phe-Cys-Glu-Met-Ile-Gly-Arg-Gln-Trp-Gly-Cys-Val-Pro-Ser (SEQ ID NO:8); and

Asp-Trp-Val-Cys-Asn-Phe-Asp-Gln-Gly-Leu-Ala-His-Cys-Phe-Pro-Ser (SEQ ID NO:9).

7. (Amended) A polypeptide according to Claim 6, comprising an amino acid sequence [as depicted in Table 5 (SEQ ID NOs:37-107)] selected from the group consisting of SEQ ID NO:37, SEQ ID NO:38, SEQ ID NO:39, SEQ ID NO:40, SEQ ID NO:41, SEQ ID NO:42, SEQ ID NO:43, SEQ ID NO:44, SEQ ID NO:45, SEQ ID NO:46, SEQ ID NO:47, SEQ ID NO:48, SEQ ID NO:49, SEQ ID NO:50, SEQ ID NO:51, SEQ ID NO:52, SEQ ID NO:53,

SEQ ID NO:54, SEQ ID NO:55, SEQ ID NO:56, SEQ ID NO:57, SEQ ID NO:58, SEQ ID NO:59, SEQ ID NO:60, SEQ ID NO:61, SEQ ID NO:62, SEQ ID NO:63, SEQ ID NO:64, SEQ ID NO:65, SEQ ID NO:66, SEQ ID NO:67, SEQ ID NO:68, SEQ ID NO:69, SEQ ID NO:70, SEQ ID NO:71, SEQ ID NO:72, SEQ ID NO:73, SEQ ID NO:74, SEQ ID NO:75, SEQ ID NO:76, SEQ ID NO:77, SEQ ID NO:78, SEQ ID NO:79, SEQ ID NO:80, SEQ ID NO:81, SEQ ID NO:82, SEQ ID NO:83, SEQ ID NO:84, SEQ ID NO:85, SEQ ID NO:86, SEQ ID NO:87, SEQ ID NO:88, SEQ ID NO:89, SEQ ID NO:90, SEQ ID NO:91, SEQ ID NO:92, SEQ ID NO:93, SEQ ID NO:94, SEQ ID NO:95, SEQ ID NO:96, SEQ ID NO:97, SEQ ID NO:98, SEQ ID NO:99, SEQ ID NO:100, SEQ ID NO:101, SEQ ID NO:102, SEQ ID NO:103, SEQ ID NO:104, SEQ ID NO:105, SEQ ID NO:106 and SEQ ID NO:107.

9. (Amended) A polypeptide according to Claim 1, 3 or 6, wherein said polypeptide has a K_d for CEA which is less than 7 μ M.
23. (New) A polypeptide having the ability to bind CEA comprising a CEA binding loop having the amino acid sequence Asp- Trp-Val-Cys-Glu-Lys-Thr-Thr-Gly-Gly-Tyr-Val-Cys-Gln-Pro-Leu (SEQ ID NO:7).
24. (New) A polypeptide having the ability to bind CEA comprising a CEA binding loop having the amino acid sequence Asn-Trp-Val-Cys-Asn-Leu-Phe-Lys-Asn-Gln-Trp-Phe-Cys-Asn-Ser-Tyr (SEQ ID NO:4).